Section I (Amendments to the Claims)

Please amend claims 1, 4, 5 and 8 as set out in the following listing of the claims of the application.

Please add new claims 14 and 15.

1. (Currently amended) A method of diagnosing Alzheimer's disease ~~or an early stage of or a predisposition for this disease~~ by means of a patient sample and a mitogenically stimulated surface marker, the method compromising the steps of:

(a) obtaining a ~~patient~~ sample from a patient, wherein the sample comprises a cell population comprising lymphocytes;

(b) quantification of the lymphocytes within the cell population comprising the CD69 for mitogenic stimulation;

(c) mitogenic stimulation of the cell population by phytohemagglutinin (PHA) or pokeweed mitogen (PWM);

(d) quantification of the lymphocytes within the mitogenically stimulated cell population comprising the CD69 after step (c), the lymphocytes bearing CD69 being separated from the lymphocytes bearing no CD69 by means of antibodies directed against CD69;

(e) calculation of a stimulation index as the quotient of the number of lymphocytes bearing CD69 by dividing the number obtained from step (d) by the number obtained from step (b)~~in step (b) and step (d)~~ and;

(f) ~~detecting~~determining that the sample is from [[a]]the patient suffering from Alzheimer's disease ~~or an early stage of or a predisposition for this disease~~ if the stimulation index calculated in step (e) is at least 10, with a maximum of 100 or that the sample is not from a patient suffering from Alzheimer's disease, if the stimulation index calculated in step (e) is less than 10.

2. (Previously presented) The method according to claim 1, wherein the sample is a blood sample.

3. (Cancelled)

4. (Currently amended) The method according to claim [[3]]1, ~~wherein the $CD69^+$ cells are further specified with respect to $CD4^+$ and/or $CD8^+$ subpopulations~~ further comprising quantifying the lymphocytes of step (b) for the surface markers $CD4^+$ and/or $CD8^+$.

5. (Currently amended) The method according to claim 2, ~~wherein the blood is stabilized~~ further comprising stabilizing the blood by adding one or more anticoagulative compounds to the patient sample after step (a) and before step (b).

6. (Cancelled)

7. (Previously presented) The method according to claim 1, wherein the antibodies in step (d) are bound to magnetic particles and the separation is carried out via immunomagnetic separation.

8. (Currently amended) Th method according to claim 1, wherein in step (e) the stimulation index is determined by determining the protein content and/or nucleic acid content of the cells bearing surface markers in step (b) and step (d).

9. (Withdrawn) A kit for the diagnosis of Alzheimer's disease or an early stage of or a predisposition for this disease, the kit containing the following constituents:

(a) a compound for mitogenic stimulation; and

(b) at least one antibody directed against a surface marker expressed after mitogenic stimulation.

10. (Withdrawn) The kit according to claim 9, also containing:

(a) an anticogulative compound; and/or

(b) a buffer for cell lysis.

11. (Withdrawn) The kit according to claim 9, wherein the antibody is an antibody bound to a magnetic particle.

12. (Withdrawn) The kit according to claim 9, wherein the antibody is an anti-CD69 antibody.

13. (Withdrawn) The kit according to claim 9, which also contains an anti-CD4 and/or CD8 antibody.

14. (New) A method of determining a mitogenic stimulation index for diagnosing patients suffering from Alzheimer's disease by means of a patient sample and a mitogenically stimulated surface marker, the method comprising the steps of:

(a) obtaining a blood sample from a patient wherein the sample comprises a cell population comprising lymphocytes and stabilizing the blood sample by adding one or more anticoagulative compounds to the blood sample;

(b) quantification of the lymphocytes within the cell population bearing the CD69 surface marker for mitogenic stimulation;

(c) mitogenic stimulation of the cell population by phytohemagglutinin (PHA) or pokeweed mitogen (PWM);

(d) quantification of the lymphocytes within the mitogenically stimulated cell population bearing CD69 after step (c), the lymphocytes bearing CD69 being separated from the lymphocytes bearing no CD69 by means of antibodies directed against CD69, wherein the antibodies are bound to magnetic particles and the separation is carried out via immunomagnetic separation; and

(e) calculation of the stimulation index as the quotient of the number of lymphocytes bearing CD69 by dividing the number obtained from step (d) by the number obtained from step (b).

15. (New) The method according to claim 14, wherein the patient sample is from a patient suffering from Alzheimer's disease, if the stimulation index calculated in step (e), and having a maximum value of 100, is at least 10.